Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of Federal-State Joint Board on Universal Service

CC Docket No. 96-45

NYNEX RESPONSE TO REQUEST FOR FURTHER COMMENT

The NYNEX Telephone Companies

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Their Attorney

Dated: August 9, 1996

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SUMMARY

The Comments and Reply Comments in this proceeding illustrate widespread support for using the Benchmark Cost Model ("BCM") to determine the level of subsidy required for price cap LECs to provide universal service to customers in high-cost, rural, and insular areas. US West and Sprint have submitted a revised version, the BCM2, which incorporates several enhancements which were suggested by the commenters. While it appears that US West and Sprint have significantly improved the accuracy of the model in targeting high-cost support, further refinements may be needed to more closely approximate the costs of a local network. The BCM2 does not attempt to estimate the costs of wireless technologies, and it does not take into account all of the additional costs of installing cable in urban environments.

For these reasons, the BCM2 should be seen as an improvement on the BCM, but the Commission should recognize that further enhancements may be necessary. US West, Sprint, NYNEX, and other members of the industry are participating in a subgroup of the United States Telephone Association to examine the available models and to produce a "Best of Breed," or combination of the best features of all models. The BCM2 may undergo further refinements as a result of this process.

Our analysis of Pacific Telesis' Cost Proxy Model ("CPM") has been limited, as data using the CPM for the NYNEX region is not yet available. However, the model appears to be useful as a flexible tool for targeting high-cost

assistance. This model also is being reviewed and critiqued by industry experts as part of the Best of Breed process.

On July 3, 1996, AT&T and MCI jointly submitted outputs from the latest version of the Hatfield Model, Version 2.2, Release 1. While representatives from Hatfield Associates, Inc. claim that this model has user-controllable flexibility, they have not provided the industry with adequate documentation to allow analysis and sensitivity testing of the model.

On June 11, 1996, NYNEX sent the attached letter to Chairman Hundt expressing its concerns with the Hatfield Model. In that letter, NYNEX listed reasons why the Hatfield Model understates LEC incremental costs, and it criticized the Hatfield Model for failing to account fully for joint and common costs. The Commission recognized in the Docket 96-98 interconnection proceeding that joint and common costs must be added to incremental cost in order to develop reasonable interconnection rates, and even MCI claims to have included almost all categories of joint and common costs in the Hatfield Model. However, the Hatfield Model incorporates assumptions and costing methodologies that cause it to grossly understate the LECs' costs. MCI freely admits this -- it concedes that if the costs in the Hatfield Model were used to set the prices of unbundled network elements, the LECs would collect only 44% of their current revenues.

The attached testimony by Dr. Timothy Tardiff documents the ways in which the Hatfield Model systematically underestimates the LECs' incremental costs, including (1) the model uses excessive fill factors; (2) it uses heavily discounted prices for new switches and assumes that a local service provider would install all of its switching capacity at once; (3) it estimates the costs of installing cable facilities and the structures for cable facilities by using multiplicative factors applied to the price of the cable; and (4) it uses depreciation rates that are unrealistic and too low. The model also includes illogical assumptions, such as the assumption that the cost of capital would go down as the LECs face increasing risk due to competition.

At this time, the BCM2 is the best available proxy model for distributing universal service support to high-cost areas. Pacific Bell's CPM may also be useful, and it should be considered as part of a Best of Breed industry analysis. The Hatfield Model has not been placed in the public record with sufficient documentation to allow interested parties to test it and to provide a full analysis to the Commission. In addition, it is clearly biased towards producing gross underestimates of LEC costs. Therefore, it cannot be used to determine the amount of funding needed to support universal service.

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In the Matter of Federal-State Joint Board on Universal Service	CC Docket No. 96-45

NYNEX RESPONSE TO REQUEST FOR FURTHER COMMENT

The NYNEX Telephone Companies[1] ("NYNEX") hereby file their Comments in response to the Commission's request for further comment (*"Request"*), issued August 9, 1996, in the above-referenced proceeding.[2]

I. INTRODUCTION

In the *Request,* the Commission seeks further comment on two proxy models that were submitted during the pleading cycle in this proceeding to identify high-cost areas and to produce benchmark cost ranges for providing basic residential telephone service, the Cost Proxy Model ("CPM") and the

[1] The NYNEX Telephone Companies are New York Telephone Company and New England Telephone and Telegraph Company.

[2] Public Notice, CC Docket 96-45, DA 96-1094, Common Carrier Bureau Seeks Further Comment on Cost Models in Universal Service Notice of Proposed Rulemaking, released July 10, 1996.

Benchmark Cost Model ("BCM").[3] In addition, the Commission seeks comments on two models that were submitted after the pleading cycle -- the Benchmark Cost Model 2 ("BCM2") and the Hatfield Model 2.2, Release 1 ("Hatfield Model").[4]

Many parties in this proceeding agree with NYNEX that the Commission should use a proxy model to target high-cost support to rural, insular and high-cost areas.[5] Among the advantages of using a proxy model, such as the BCM, to target and distribute high-cost assistance is that (1) it provides the same level of support for all LECs serving high-cost areas; (2) it directs assistance to high-cost areas rather than to high-cost companies, encouraging recipients to control their costs; and (3) it facilitates the portability of high-cost support.

A proxy model should be used only to develop support for price-cap local exchange carriers ("LECs") providing "core" services to high-cost areas. Non-price-cap LECs should receive high-cost assistance based on actual loop costs in their study areas. A well-designed proxy system may be satisfactory for a LEC that serves a wider geographic area, as any overestimation in some areas will be offset by an underestimation in other areas. However, such a model may not

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[3] Pacific Telesis submitted the CPM; NYNEX, Sprint, MCI, and US West (the "Joint Sponsors") resubmitted the BCM that they had prepared for the universal service fund investigation in CC Docket No. 80-286.

[4] US West and Sprint submitted the BCM2 on July 3, 1996. MCI and AT&T filed the Hatfield Model on July 5, 1996.

[5] *See, e.g.*, Wyoming PSC, p. 8; Illinois Commerce Commission, pp. 6-7; Time Warner, p. 9.

accurately portray the costs of a LEC that serves only a limited or a smaller area, and this could cause financial harm to small LECs.[6]

While some of the models have not been provided with adequate documentation, and/or have been revised too recently to allow detailed analysis, NYNEX has attempted to analyze all of the models currently on the record in this proceeding. The following comments reflect the results of NYNEX's proxy model analysis.

II. COMMENTS ON THE BENCHMARK COST MODEL

The Joint Sponsors submitted the BCM to identify areas where the costs of providing basic residential telephone service can reasonably be expected to be so high as to require explicit high-cost support.[7] The submission of the BCM was accompanied with detailed documentation of the model's results, assumptions, and algorithms. Copies of the model were made available to the parties on computer disk at a nominal fee. In addition, the model sponsors conducted several public workshops to demonstrate the model and to give interested parties a forum to ask questions.

The Comments and Reply Comments in this proceeding illustrate widespread support for using the BCM to determine the level of subsidy required for price cap LECs to provide universal service to customers in high-

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[6] *See* NYNEX Comments in CC Docket No, 80-286, filed October 10, 1995.

[7] *See* Benchmark Cost Model, Letter to W.F. Caton from the Joint Sponsors, dated September 12, 1995, Executive Summary, p. 2.

cost, rural, and insular areas.[8] The model was designed to identify Census Block Groups ("CBGs") that are relatively more costly to serve than other areas. Since the BCM does not rely on a company's actual costs of providing service, it is both technologically and competitively neutral. The BCM treats carriers equally, regardless of the size of the area served and regardless of whether they are incumbent LECs or new entrants. In addition, the BCM allows for portability of the subsidy among eligible universal service providers.[9]

The monthly service costs that are produced by the BCM should be used to identify CBGs that are relatively more costly to serve than other CBGs. Those monthly costs should be used to apportion federal high-cost support through the selection of benchmark levels. For instance, the Commission could decide to provide $10 per month in support for CBGs that have total monthly costs of $60 to $70, $15 per month for CBGs that have costs of $70 to $80, and so on.[10] Because the BCM does not represent actual costs, it is not necessary to equate the cost in each CBG to the level of universal service support plus the local telephone rate. The choice of benchmark levels is merely a method by which the Commission could control both the size of the fund and the level of assistance

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[8] *See, e.g.*, AT&T Comments at Appendix A, p. 1; LDDS Worldcom Comments at p. 10; MCI Comments at p. ii; Florida PSC Comments at pp. 9-10; Pennsylvania PUC Comments at pp. 17-18; Wyoming PSC Comments at p. 17; MCI Reply Comments at pp. 4-8.

[9] NYNEX's Reply Comments, CC Docket No. 96-45, pp. 5-6.

[10] A set of support levels with a maximum of $30 per month for households with monthly benchmark costs of $100 or more would provide support to approximately 2.2 million of the 85 million households in areas served by price-cap LECs, and would require a fund of $520 million.

from the interstate jurisdiction. State regulators should consider whether additional support from a State fund, as permitted by Section 254(f) of the Act, is necessary to support affordable state rates for universal service in high-cost areas.

III. COMMENTS ON THE BENCHMARK COST MODEL 2

Several parties in this proceeding expressed concern with apparent limitations in the BCM, and they recommended model enhancements to address these limitations.[11] In response, US West and Sprint submitted a revised version, the BCM2, which incorporates several of the suggested enhancements.[12] The revisions included updating the switching module to include a variety of switch sizes, a user adjustable copper/fiber breakpoint, basing structure and placement costs on per-foot costs, adding a slope variable, and adopting a road buffer approach to address household distribution assumptions. According to the BCM2's sponsors, these enhancements represent significant improvements from the BCM, and they result in increased accuracy in determining the cost of serving both rural and urban areas.[13]

It is significant that US WEST and Sprint followed the release of the BCM2 with open, informative work sessions, usable electronic files, and detailed

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[11] *See, e.g.*, AT&T Comments, Appendix A, p. 2; MCI Comments, p. 11; National Cable Television Association Comments, pp. 7-10 and Attachment A.

[12] Benchmark Cost Model 2, Letter to William F. Caton from US WEST and Sprint, CC Docket 96-45, July 3, 1996.

[13] *See* Ex Parte Letter from US WEST and Sprint to William F. Caton, CC Docket No. 96-45, dated July 3, 1996.

documentation describing each of the enhancements. As was done with the release of the BCM, they have demonstrated a willingness to share information and to provide the industry with the tools necessary to test and analyze their model.

While it appears that US West and Sprint have significantly improved the accuracy of the model in targeting high-cost support, further refinements may be needed to more closely approximate the costs of a local network. For instance, the model establishes a maximum investment per loop to recognize that some customers at great distances from the wire center might be served more efficiently by a wireless loop. However, the BCM2 does not attempt to estimate the costs of wireless technologies. Also, the sponsors have attempted to improve the representation of costs in urban areas by several enhancements, such as including business lines, separating the costs of placing outside plant from the costs of the cable itself, and including the costs of the pedestal, drop wire, and network interface device. While these are significant improvements, the model still does not take into account all of the additional costs of installing cable in urban environments.

For these reasons, the BCM2 should be seen as an improvement on the BCM, but the Commission should recognize that further enhancements may be necessary. US West, Sprint, NYNEX, and other members of the industry are participating in a subgroup of the United States Telephone Association to examine the available models and produce a "Best of Breed," or combination of

the best features of all models. The BCM2 may undergo further refinements as a result of this process.

IV. COMMENTS ON THE COST PROXY MODEL

According to Pacific Telesis, its Cost Proxy Model ("CPM") is a database predictor of a least cost, forward looking local telecommunications network.[14] The CPM is designed to accommodate any geography -- CBGs, wire centers, grid cells, and arbitrary polygons.[15] The CPM is designed to operate with or without proprietary data.[16]

Our analysis of this model has been limited, as data using the CPM for the NYNEX region is not yet available. However, the model developers have openly provided all available model documentation. The model appears to be useful as a flexible tool for targeting high-cost assistance. Although we have not completed our review of this model, we are encouraged by the fact that this model is being reviewed and critiqued by industry experts as part of the Best of Breed process.

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[14] *See* Ex Parte Letter from Pacific Telesis to William F. Caton, CC Docket No. 96-45, dated May 21, 1996.

[15] NYNEX supports identifying high cost areas on the basis of U.S. Census Block Groups. The CBG, which contains, on average, about 400 household units, is a discreet geographical unit used by the Department of Commerce in its national population census surveys. It is sufficiently small so as to allow the Commission to target high cost support to specific areas that have above-average costs. *See* NYNEX Comments, CC Docket No. 80-286, filed October 10, 1995, p. 13.

[16] In order to avoid bias and data anomalies, a proxy model should rely only on data that is publicly available.

V. COMMENTS ON HATFIELD MODEL

On July 3, 1996, AT&T and MCI jointly submitted outputs from the latest version of the Hatfield Model, Version 2.2, Release 1.[17] In addition to the output results filed in this submission, AT&T and MCI submitted two of the four electronic components required to run and analyze the Hatfield Model -- the model's Expense Modules and the ARMIS and DEM data. Although these additional components, which NYNEX bought, cost over $1,000, a user guide providing instructions on how to combine the components and run the model has not been made available. While representatives from Hatfield Associates, Inc. claim that this model has user-controllable flexibility,[18] any analysis and sensitivity testing of the model using its electronic components is impossible without adequate documentation.

The sponsors of the Hatfield Model have continually responded to concerns about their model by releasing undocumented new revisions in response to industry questions and concerns. For instance, on May 30, 1996, AT&T and MCI filed an earlier update to the Hatfield Model that, like the July 3, 1996, submission, was accompanied by outputs representing the model's Cost of Network Elements for 49 jurisdictions. Both sets of outputs were produced using the Hatfield Model, Version 2.2, Release 1 and are dated May 30, 1996.

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[17] *See* Ex Parte Letter from AT&T and MCI to William F. Caton, CC Docket No. 96-98, dated July 3, 1996.

[18] Hatfield Model Version 2.2 Presentation to NARUC by Robert A. Mercer, Hatfield Associates, Inc., July 22, 1996.

However, as Attachment A illustrates, the two releases contain different costs for "total loop" and "total switched." The letter accompanying the July 3, 1996 data indicates that a change was made in the cost of capital. However, at the Summer NARUC Meeting in Los Angeles, when representatives from Hatfield Associates were asked to provide an explanation on why the numbers are different and what the differences represented, they responded that the current model is not easy to work and that an additional update that is "more user friendly" will be released shortly, Hatfield Model Version 2.2, Release 2. Thus, the Hatfield Model is a "moving target" that, combined with the lack of adequate documentation, is almost impossible to test independently.

Sponsors of other proxy models have exerted a considerable effort to provide interested parties with the documentation required to run and test their models. Unfortunately, the sponsors of the Hatfield Model are unwilling or unable to provide the industry with the tools necessary to evaluate or critique this model. Simply submitting an electronic copy of the model, especially one that requires a combination of several data sources in order to operate, with no documentation or user guide, is, at best, an insufficient response to requests made to make the model available so that interested parties can thoroughly evaluate it.

On June 11, 1996, NYNEX sent the attached letter to Chairman Hundt expressing its concerns with the Hatfield Model.[19] In that letter, NYNEX

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[19] *See* Attachment B.

criticized MCI's incremental pricing methodology for failing to account fully for joint and common costs, and it listed reasons why the Hatfield Model understates LEC incremental costs. MCI responded to that letter on July 15, 1996.[20] MCI defended the Hatfield Model as an example of "economic" and "efficient" costing, and it cited NYNEX's own use of incremental pricing principles in State proceedings to set rates for services such as Centrex and intraLATA toll services. Of course, as MCI recognizes, NYNEX had to account for joint and common costs in those rate proceedings that were not recovered through the incremental costing methodology in order to develop rates for all services that would allow NYNEX to recover its total costs of service. The Commission recognized in the Docket 96-98 interconnection proceeding that joint and common costs must be added to incremental cost in order to develop reasonable interconnection rates,[21] and even MCI claims to have included almost all categories of joint and common costs in the Hatfield Model.[22]

The real problem with the Hatfield Model is that it incorporates assumptions and costing methodologies that cause it to grossly underestimate the LECs' costs. MCI freely admits this -- it concedes that if the costs in the

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[20] *See* MCI Ex Parte Letter to Chairman Reed Hundt, CC Docket No. 96-45, dated July 15, 1996.

[21] *See* Public Notice Report No. DC 96-75, Commission Adopts Rules To Implement Local Competition Provisions Of Telecommunications Act of 1996, CC Docket No. 96-98, released August 1, 1996.

[22] MCI claims that its TSLRIC pricing methodology included all but a small portion of corporate overhead expenses. However, as discussed herein, the Hatfield Model produces rates that clearly fail to cover over half of a LEC's total costs.

Hatfield Model were used to set the prices of unbundled network elements, the LECs would collect only 44% of their current revenues. It is inconceivable that the LECs could stay in business with that amount of revenues, even if they scaled back to a 100% wholesale operation and wrote off their under-depreciated investment.

Attached is a copy of the testimony submitted by Dr. Timothy Tardiff on behalf of NYNEX in the New York Public Service Commission's investigation of the costs of resale services, links and ports.[23] Dr. Tardiff documents the ways in which the Hatfield Model systematically underestimates the LECs' incremental costs, including (1) the model uses excessive fill factors; (2) it uses heavily discounted prices for new switches and assumes that a local service provider would install all of its switching capacity at once; (3) it estimates the costs of installing cable facilities and the structures for cable facilities by using multiplicative factors applied to the price of the cable; and (4) it uses depreciation rates that are unrealistic and too low.

The Hatfield Model includes assumptions and inputs that are arbitrary and blatantly illogical. For instance, Hatfield uses a cost of capital of 10% rather than the Commission-prescribed rate of 11.25% because "one would expect competition to force rates down from their monopoly levels."[24] This is the exact

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[23] *See* Attachment C, Testimony of Dr. Timothy J. Tardiff, Case Nos. 95-C-0657, 94-C-0095, 91-C-1174, submitted July 15, 1996.

[24] MCI Ex Parte Letter to Chairman Reed Hundt, CC Docket No. 96-45, dated July 15, 1996, at p. 3.

opposite of what one would expect with regard to the rate of return. 11.25% represents the return on investment that the capital markets demand in a monopoly environment, where risks are low and where there is some regulatory assurance that costs will be recovered. In a competitive environment, a carrier is not assured that it will recover its costs, and it faces that likelihood that it will have to replace equipment in much shorter time periods than the Commission has assumed in prescribing depreciation rates.[25] Thus, the LEC will face greater risk, and investors always seek higher returns with greater risk.[26]

Due to these limitations, the Hatfield Model is totally unusable for purposes of determining the "economic cost" of providing local telephone service. The model may, however, still have application in the allocation of high-cost support as a proxy for the relative cost of providing telephone service in different areas. Its usefulness for even this limited purpose cannot be determined at this time, since the sponsors have failed to provide adequate documentation. In contrast, the BCM and BCM2 are properly documented, and

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[25] Indeed, this is a central tenet of the Hatfield Model, which assumes that the LEC completely disregards its "sunk," or embedded, investment, and that it only seeks to recover the costs of forward-looking investment in the latest, lowest cost technologies.

[26] The Commission recognized in its recent decision in Docket 96-98 that the States will determine "the appropriate risk-adjusted cost of capital and depreciation rates" in determining the incremental cost of unbundled network elements. *See* Public Notice Report No. DC 96-75, Commission Adopts Rules To Implement Local Competition Provisions Of Telecommunications Act of 1996, CC Docket No. 96-98, released August 1, 1996, p. 4.

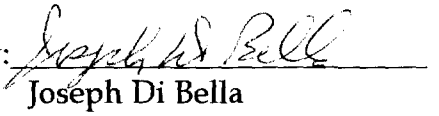
they provide a much more reliable basis for allocating universal service support among high cost areas.

VI. CONCLUSION

At this time, the BCM2 is the best available proxy model for distributing universal service support to high-cost areas. Pacific Bell's CPM may also be useful, and it should be considered as part of a Best of Breed industry analysis. The Hatfield Model has not been placed in the public record with sufficient documentation to allow interested parties to test it and to provide a full analysis to the Commission. In addition, it is clearly biased towards producing gross underestimates of LEC costs. Therefore, it cannot be used to determine the amount of funding needed to support universal service.

Respectfully submitted,

The NYNEX Telephone Companies

By: 
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Dated: August 9, 1996

Attachment A

Hatfield Model Version 2.2

Comparison of Monthly Average Loop and Switch Costs

for the NYNEX Region

Hatfield 2.2
per 5/30/96 Filing

	Average Monthly Cost / Household		
State	**for Loop**	**for Switch**	**Total**
Maine	$12.07	$19.32	$31.39
Massachusetts	$8.67	$15.25	$23.92
New Hampshire	$10.81	$18.10	$28.91
Rhode Island	$9.02	$15.23	$24.25
Vermont	$13.41	$21.88	$35.29
New England Region	$9.51	$16.30	$25.81
New York	$9.95	$16.58	$26.53
NYNEX Region	$9.79	$16.47	$26.26

Hatfield 2.2
per 7/3/96 *Ex Parte*

	Average Monthly Cost / Household		
State	**for Loop**	**for Switch**	**Total**
Maine	$12.89	$20.78	$33.67
Massachusetts	$9.16	$16.28	$25.44
New Hampshire	$11.55	$19.60	$31.15
Rhode Island	$9.53	$16.23	$25.76
Vermont	$14.29	$23.48	$37.77
New England Region	$10.09	$17.46	$27.55
New York	$10.37	$17.40	$27.77
NYNEX Region	$10.27	$17.42	$27.69

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ATTACHMENT B

NYNEX

June 11, 1996

Honorable Reed E. Hundt, Chairman
Federal Communications Commission
1919 M Street, NW
Washington, DC 20554

Re: Federal-State Joint Board on Universal Service, CC Docket No. 96-45.

Dear Chairman Hundt:

At the Joint Board hearing on June 5, 1996, you asked a representative of the local exchange carriers ("LECs") whether he agreed that Total Service Long Run Incremental Cost ("TSLRIC"), as represented by the MCI's "Hatfield Model," included all of a LEC's costs, including its joint and common costs and its capital costs. NYNEX does not feel that the answer you received adequately conveyed the serious and fundamental flaws in the Hatfield Model, or the general problems associated with TSLRIC. Therefore, we submit the following points:

The Hatfield Model does not represent TSLRIC. The Hatfield Model is not based on real costs -- it is a "blank slate" model of a hypothetical LEC network that might be constructed from scratch using the lowest-cost technology available today. It does not represent, in any way, the incremental costs that a LEC will actually incur to provide a service or a facility.[1] For this reason, it is inconsistent with the economic theories supporting TSLRIC pricing. The purpose of incremental pricing is to inform buyers of the costs that they impose on a firm, and on society, if they purchase the firm's output. This leads to an efficient allocation of society's resources, and it ensures that the most efficient firm will be chosen. The TSLRIC blank slate methodology contradicts this economic principle by misinforming the purchaser about the producer's actual incremental cost. Therefore, TSLRIC blank slate is fundamentally inconsistent with efficient, or "economic," pricing.

The Hatfield Model grossly underestimates network investment levels. The authors of the Hatfield Model believe that they can design a "more efficient" nationwide telephone network on a personal computer using a handful of parameters, such as distance, population density, and soil conditions. This does not begin to represent all of

[1] *See* Implementation of Local Competition Provisions of the Telecommunications Act of 1996, CC Docket No. 96-98, Reply Comments of Bell Atlantic, filed May 30, 1996, Declaration of Alfred E. Kahn and Timothy J. Tardiff, p. 3 ("Kahn Affidavit").

the factors that a LEC must take into account in building a network that will meet the needs of its customers.[1] No one has shown that a LEC could provide quality service with the "bare bones" network contained in the Hatfield Model. Indeed, the interexchange carriers want the ability to purchase unbundled network elements from the LECs because do not believe that they could build a new local network at the same cost as the existing LEC network.[2]

MCI argues that that the huge discrepancy between the results of the model and the LECs' actual investments are due to excess capacity in the LEC networks. However, the discrepancy merely illustrates the fundamental flaw in the Hatfield Model. All telecommunications networks are engineered with sufficient capacity to handle peak demand and growth. When a carrier builds transmission plant, it does not install just enough capacity to handle current demand -- it builds enough capacity to handle demand until the next upgrade. This represents efficient design. For example, the Commission noted in Docket 96-61 that AT&T's competitors have enough "excess capacity" to handle two-thirds of AT&T's traffic within 12 months.[3] Since those companies are, in the Commission's view, in competitive markets, this shows that the bare-bones capacity levels in the Hatfield Model are not representative of a network under competitive market conditions.

The Hatfield Model "disallows" major portions of the LECs' current expenses. The Hatfield Model uses self-serving assumptions to substantially underestimate the LECs' expenses. For instance, Hatfield decided that the LECs' administrative and overhead costs "seemed excessive," so he used a 6 percent factor from other industries.[4] Hatfield used a 10 percent cost of capital, regardless of the fact that massive disallowance's of the LECs' existing investments would increase the risk, and the cost of capital, for further investments in the local exchange business. Hatfield assumed that certain network expenses varied with the dollar level of investment, which compounded the problem of underestimating the amount of network investment, and he completely omitted corporate operations and customer operations expenses.[5] In other words, Hatfield treats this as a rate case, in which he decides that certain costs are unreasonable by reference to some type of ratemaking standard, exactly the result that Congress tried to avoid when it enacted the Telecommunications Act of 1996.

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[1] Since MCI has chosen not to put its model on the record , it is impossible for NYNEX to fully explore the model or to test its assumptions. Most of the information that NYNEX has been able to glean about the model has come from the descriptions that MCI and AT&T attached to their comments in the Docket 96-98 interconnection proceeding. This is in contrast to the Benchmark Cost Model, which NYNEX and the other sponsors made available to the industry during the universal service fund investigation. The Commission should not give the Hatfield Model any credence until it has been subject to analysis by interested parties in all proceedings where it has been cited by MCI.

[2] *See, e.g.*, AT&T Comments, CC Docket No. 96-98, filed May 16, 1996, p. 75 n.108.

[3] See Policy and Rules Concerning The Interstate, Interexchange Marketplace, CC Docket No. 96-61, Notice of Proposed Rulemaking, March 25, 1996, p. 30 n. 121.

[4] See MCI, The Cost of Basic Network Elements: Theory, Modeling and Policy Implications, p. 30.

[5] See id. at pp. 29, 43-44.

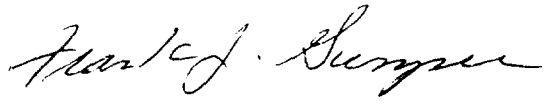
The net effect of the Hatfield Model is confiscatory. As MCI admits, the model produces costs that are only 44% of the LECs' existing revenue requirements.[1] It is inconceivable that a LEC could stay in business if it could not recover over half of its current costs. Even if the model were used only to reprice access services, it would be devastating to the LECs. For example, if the model were used to reduce NYNEX's access rates by 50%, NYNEX would lose approximately $1.5 billion in annual revenues. To put that amount in perspective, it is more than NYNEX Corporation's entire annual earnings from all of its operations.

NYNEX is working on a computer model that will estimate the actual effect of TSLRIC blank slate pricing on a LEC's revenues. However, it is obvious, at this point, that rates based on the Hatfield Model would provide no incentive to invest in the network, assuming that the capital markets would provide the funds for such investment.

Joint and common costs must be added to TSLRIC pricing to produce "economic" rates. Even if the flaws in the Hatfield Model were corrected, and the Commission adopted a TSLRIC model that used the LECs' actual investments, it would not produce "economic" rates. TSLRIC pricing of all of a company's output would not cover all of its joint and common costs.[2] Therefore, as the Commission recognizes,[3] joint and common costs must be added to TSLRIC pricing to allow a LEC an opportunity to recover the costs that it incurs to provide all of its services.

For these reasons, NYNEX opposes use of TSLRIC pricing in general, or the Hatfield Model in particular, to set interconnection rates or to determine costs for purposes of developing universal service support levels. The Commission should not adopt a pricing model that inherently underestimates the actual costs that the LECs will incur to provide interconnection and universal service.

Sincerely,



cc: Joint Board Members

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[1] See MCI Comments, CC Docket No. 96-98, filed May 16, 1996, pp. 73-74.

[2] *See* Kahn Affidavit at pp. 5-6.

[3] *See* Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, Notice of Proposed Rulemaking, FCC 96-182, released April 19, 1996, para. 129.

Case 95-C-0657
Case 94-C-0095
Case 91-C-1174

REBUTTAL TESTIMONY OF DR. TIMOTHY J. TARDIFF

Q. Please state your name and business address.

A. My name is Timothy J. Tardiff. I am a Vice President at National Economic Research Associates, 1 Main Street, Cambridge, MA 02142.

Q. Please describe your educational and professional qualifications.

A. I received the B.S. degree from the California Institute of Technology in mathematics (with honors) in 1971 and the Ph.D. in Social Science from the University of California, Irvine in 1974. From 1974 to 1979, I was a member of the faculty at the University of California, Davis. I have specialized in telecommunications policy issues for about the last 14 years. My research has included studies of the demand for telephone services, such as local measured service and toll; analysis of the market potential for new telecommunications products and services; assessment of the growing competition for telecommunications services; and evaluation of regulatory frameworks consistent with the growing competitive trends. I have filed testimony and reports on behalf of Pacific Bell before the California Public Utilities Commission on incremental cost principles, rules for local competition, universal service funding, open access and network architecture, regulation of wireless telecommunications services, the treatment of accounting changes for post-retirement benefits under price caps, the review of California's price cap plan, and flexible pricing for Centrex service. I have also submitted reports on behalf of Pacific Bell before the Federal Communications Commission on price cap productivity, access to intelligent networks, interconnection pricing policies, and the treatment of accounting changes

for post-retirement benefits under price caps. I have also testified for GTE North on intraLATA presubscription before the Illinois Commerce Commission, and filed a report with the New York Public Service Commission on intraLATA presubscription on behalf of New York Telephone. Exhibit 1 is a copy of my resume.

I. INTRODUCTION

Q. What is the purpose of your testimony?

A. In this testimony, I evaluate whether the Hatfield model provides a proper basis for pricing network elements. AT&T's witness Eugene Floyd has recommended the Hatfield model as a basis for establishing the costs of network components in New York. Professor Nicholas Economides for AT&T and Dr. August Ankum for MCI have endorsed the model as being consistent with sound economics. Neither conclusion is true. The model is *not* consistent with sound economics and it produces results that systematically understate the costs that New York Telephone Company (or any local exchange carrier) faces in providing its services and offering unbundled elements to competitors. In particular,

- The model's assumption that prices should be set as if all volumes currently served by local exchange carriers will be served by a brand new entrant that instantly materializes is inconsistent with both reality and sound economics. Accordingly, costs based on such a model will *not* be representative of the costs incumbent LECs incur providing services and unbundled networks components.

- The model employs approximations that produce serious inaccuracies when the relationships upon which these approximations are based depart from their historical relationships. For example, the model estimates the costs of installing cable facilities as well as the structures for cable facilities by using multiplicative factors applied to the price of the cable itself. As a result, the model has the undesirable property that a reduction in the cable price itself causes the total cost of cable-related investment (such as investments in poles) to fall proportionately.

- The inputs (e.g., central office equipment prices) are consistently lower than what local exchange companies actually pay.

II. HISTORY OF THE HATFIELD AND RELATED MODELS

Q. Mr. Floyd reports that the Hatfield model is constantly being refined. Do you agree?

A. Yes. If anything, Mr. Floyd's characterization is an understatement. A brief review of the Hatfield model evolution will show why. The first Hatfield model, sponsored by MCI, was introduced in 1994.[1] That model employed a "greenfield" (or "scorched earth") approach, i.e., the model completely ignored all existing locations of telephone plant and analyzed the cost a hypothetical network built instantaneously on a featureless plain. The major purpose of the model was to develop an estimate of the size of the nationwide universal service subsidy.

[1] Hatfield Associates, "The Cost of Basic Universal Service," Prepared for MCI Communications Corporation, July 1994